



Structures Laboratory



UTM



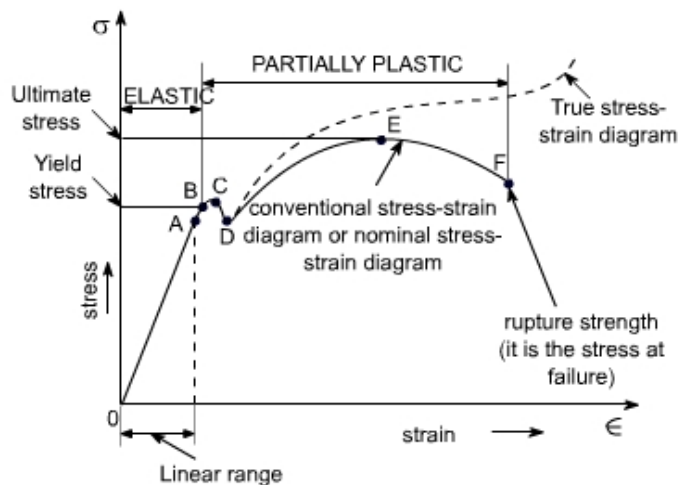
Material testing machine to test compressive and tensile strength

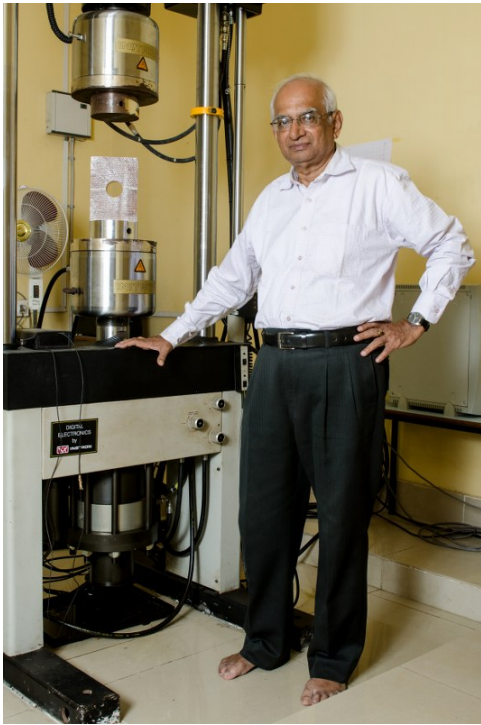
The specimen is loaded by tension, or compression. The load is increased slowly and gradually.

Plot Tensile Test Curve

Identify the critical points such as Proportional limit, elastic limit, yield strength, ultimate strength strength etc.

Determine the material properties such as Young's modulus





INSTRON

**For tensile and
compressive test**

Bending Test





IZOD IMPACT TESTER



HARDNESS TESTER



**SAMPLE WING
CONSTRUCTION**





TORSION TESTING MACHINE

Rigidity Modulus
Circular and Square sections



QUARTER RING BENDING

Deflection Measurement

MAXWELL'S THEORY

Verification and
construction of flexibility matrix



**Evaluation of forces,
displacements of Plane truss
Using strain gauges**



**Evaluation of Deflection and
Verification of Virtual Energy
Principle**



Verification of Castigliano's Theorem

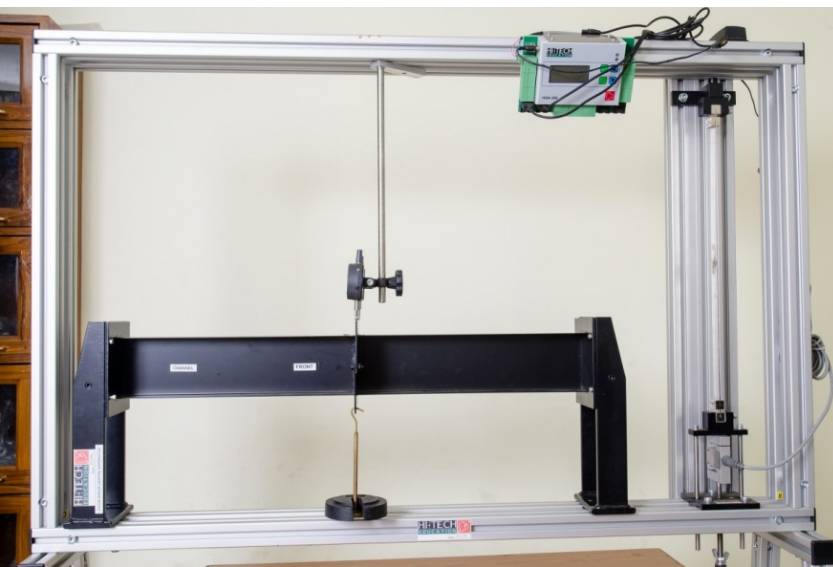




Measurement of horizontal and vertical displacement of unsymmetrical sections

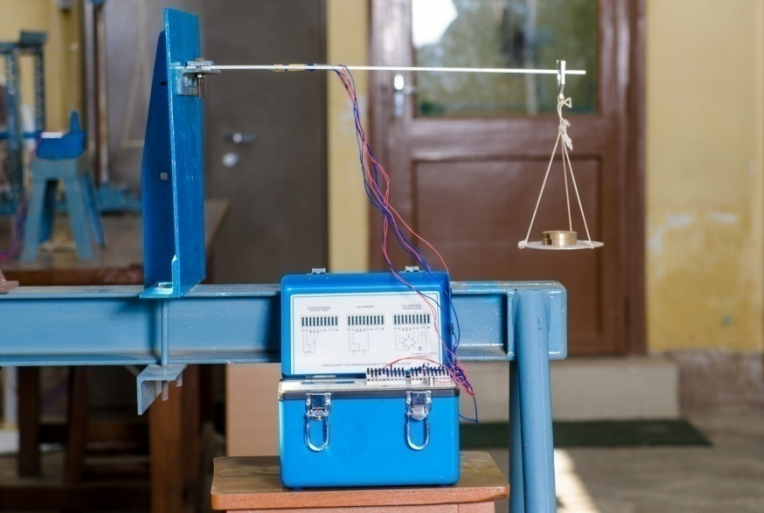


Principle Axis unsymmetrical sections



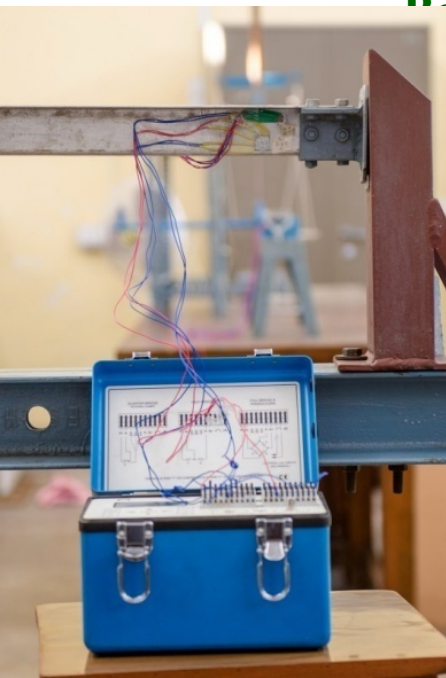
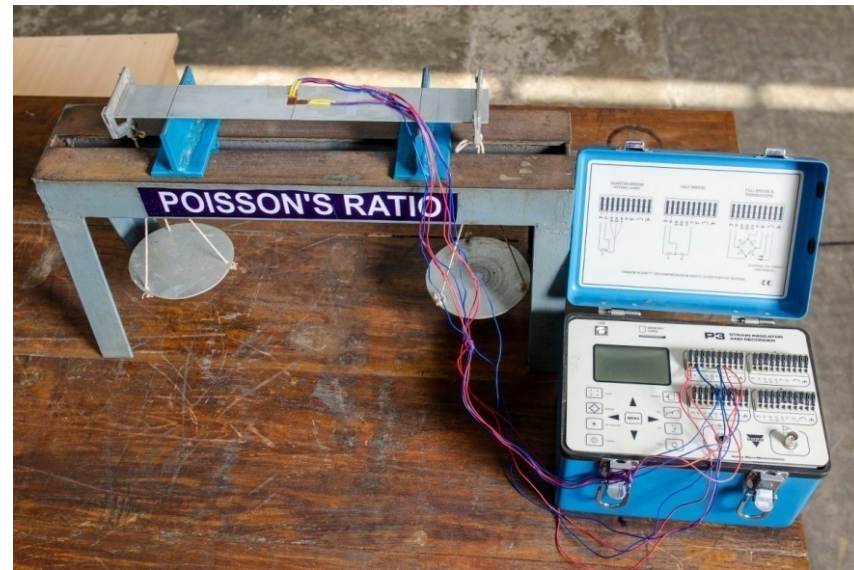
Shear centre of open sections like Channel





Beam bending

Poisson's ratio
Using strain
gauge
Beam structure



Experiment with strain rosette



← Load Cell Calibration

Buckling of Column

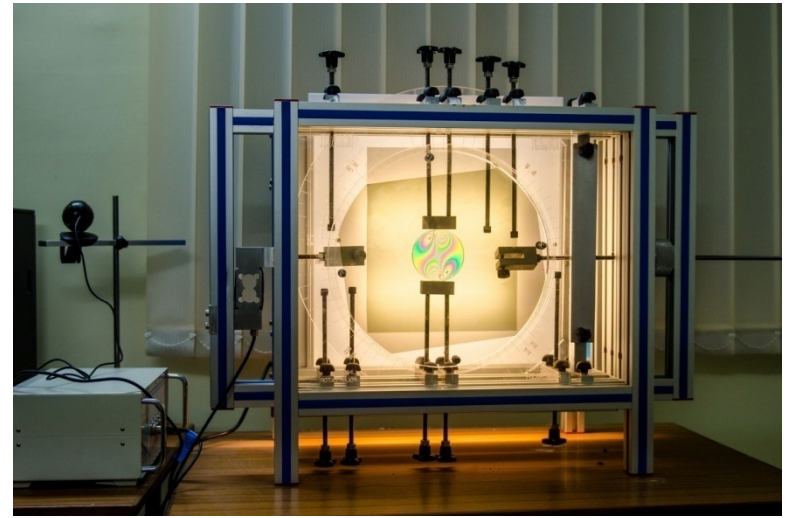
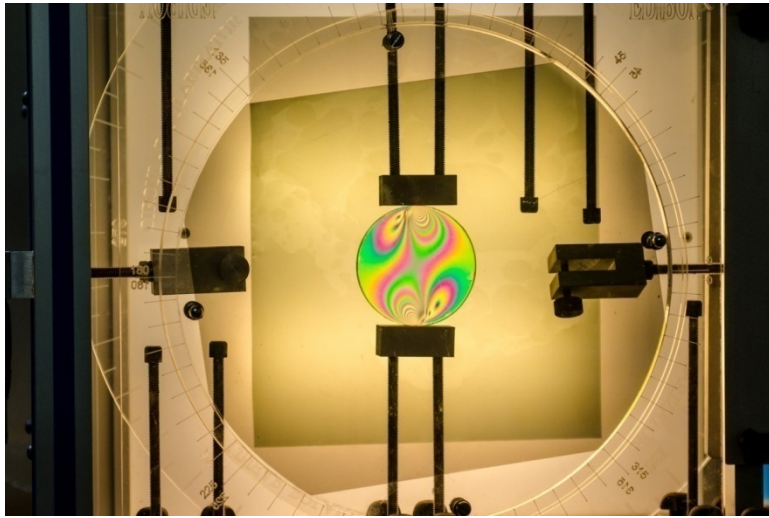


← Pure Bending of plate

Vibration Fundamentals Spring-mass-damper system



Natural Frequency Identifier
Visualise the mode shape



Photoelasticity Setup

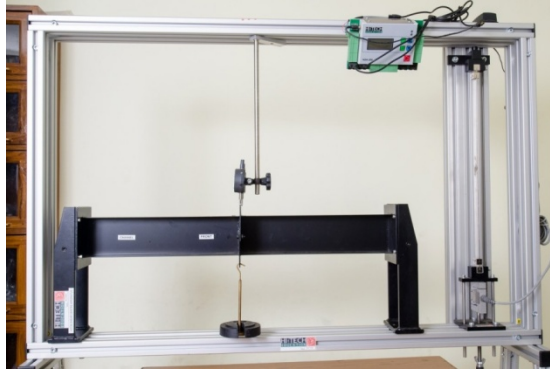


← **Column Buckling**

UPGRADED UG & PG LABORATORY EXPERIMENTS



INSTRON



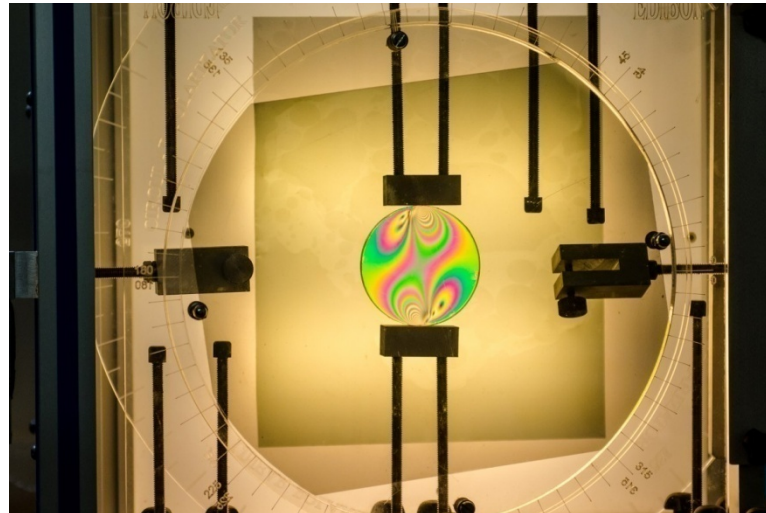
SHEAR CENTRE



VIBRATION FUNDAMENTALS



RING BENDING



PHOTOELASTICITY



COLUMN BUCKLING

AUGMENTED UG & PG EXPERIMENTS



MEMBER FORCES OF TRUSS



DEFLECTION OF TRUSS



REDUNDENT & CONTINUOUS BEAM



VERIFICATION OF CASTIGLIANO'S THEORY

RESEARCH FACILITIES AUGMENTED RECENTLY



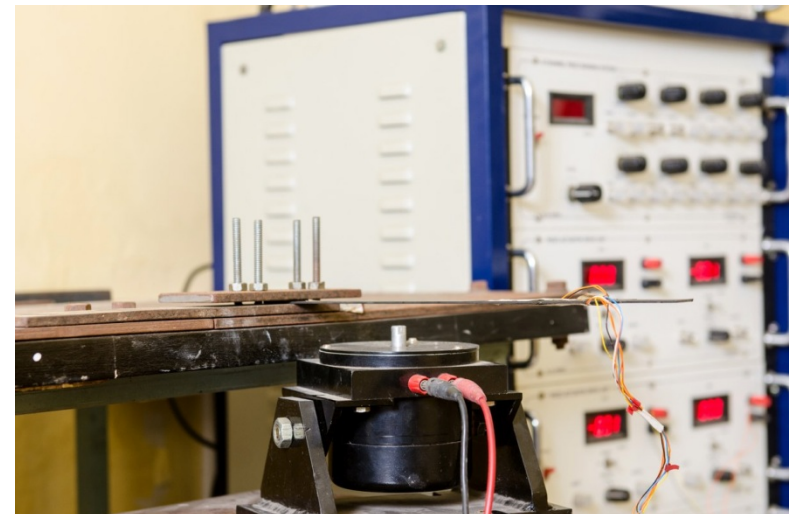
SHAKE TABLE



BI-AXIAL BUCKLING



SHAKER



SMART STRUCTURES